## REMARKS

Subject to the Examiner's entry of the amendments herein, claims 1-26 are pending in the application. By this Amendment Applicant has amended claims 1, 11, 16-18, 21-22, and has added new claims 23-26, in the manner discussed below.

**Claim Rejections Under 35 U.S.C. §112**

The Examiner has rejected claims 16 and 17 under 35 U.S.C. §112 as being indefinite. Applicant has amended claims 16 and 17 in response to the Examiner's comments and respectfully requests withdrawal of the outstanding rejection under 35 U.S.C. §112.

**Claim Rejections Under 35 U.S.C. §101**

The Examiner has rejected claims 18-22 under 35 U.S.C. §101 as being directed to non-statutory subject matter. In particular, the Examiner has asserted that these claims are directed to "software per se" and do not fall into one of the statutory categories defined by 35 U.S.C. §101. Applicant notes that the Examiner has not provided any authority for the proposition that a claim that is "software per se" is necessarily not included within one of the categories of statutory subject matter.

As an initial matter, Applicant observes that the specification includes ample description of hardware implementations of embodiments of claims 18-22. In this regard claims 18-22 recite a "proxy element" and a "standby element", each of which may be implemented in hardware. See, e.g., FIGS. 8-9 and the present specification at pp. 40-43, which describes implementation of a proxy element and a standby element using an SPPS 800. Since the SPPS 800 may be implemented in hardware as, for example, an ASIC (see, e.g., the specification at p. 17, line 28 through p. 18, line 19), using a combination of hardware and software, or potentially exclusively via software, the elements of claims 18-22 are clearly not "software per se". Accordingly, Applicant respectfully requests withdrawal of the outstanding rejection of claims 18-22 under 35 U.S.C. §101.

Applicant further observes that the Federal Circuit has consistently held that processes or systems implemented using software are patentable to the extent that the process produces a

useful result and does not merely involve manipulation of an abstract idea or mathematical algorithm. See, e.g., State Street Bank v. Signature Financial, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and AT & T Corp. v. Excel Communications Inc., 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999). Since the methods of claims 18-22 clearly describe useful systems for facilitating failover of stateful protocol connections, Applicant respectfully submits that claims 18-22 fall within the scope of statutory subject matter defined by 35 U.S.C. §101 even if implemented exclusively in software.

**Claim Rejections Under 35 U.S.C. §102(e)**

The Examiner rejected claims 1, 2, 5, 8-12, 14-19, 21 and 22 under 35 U.S.C. §102(e) as being anticipated by Orman et al. (U.S. Pat. No. 7,076,555).

Orman System

Orman describes a system and a method for transparent takeover (or failover) of a remote client TCP connection from a first server in a cluster of interconnected servers to a second server. Significantly, in the Orman system a shared memory is provided for the storing of shared state information relative to the connection on each involved server. The shared state information is used by the second server to reestablish the connection on the second server in the event of failover; that is, the second server does not maintain or otherwise store state information, but instead relies upon such shared state information to renew the connection.

Differences Between the System of Invention and the Orman System

As defined by the pending claims, the present invention pertains in one aspect to a method of facilitating failover of a stateful protocol connection from a proxy or primary element to a standby proxy or element. Consistent with this aspect of the invention, the proxy or primary element withholds acknowledgment of receipt of data at such element until a predefined operation involving the data has been performed. This contrasts with the system of Orman, in which a first or "failed" server at which data is received is not so configured to withhold and itself subsequently send an acknowledgment of receipt of such data.

Embodiments of the invention also contemplate that state information is transferred from the proxy or primary element to the standby proxy or element. This also contrasts with the Orman system, in which both primary and standby elements utilize a common memory containing shared state information, thus obviating the need for transfer of state information from one element to another.

Pending claim 1 defines the scope of one aspect of the present invention:

1 (Currently Amended). A method of facilitating failover of a stateful protocol connection from a proxy element to a standby proxy, the method comprising:

receiving, at the proxy element, data sent by a first external entity in accordance with a first stateful protocol connection;

withholding acknowledgment of receipt of the data at the proxy element until a predefined operation involving the data has been performed;

transferring state information relating to the first stateful protocol connection from the proxy element to a standby proxy; and

sending, from the proxy element, the acknowledgment of receipt to the first external entity subsequent to performance of the predefined operation involving the data.

The distinction between the Orman system embodiments of the invention noted above is evidenced by claim 1, which recites that state information is transferred from the proxy element to a standby element. Such a transfer is not effected within the Orman system, in which shared state information is maintained within a common memory accessible to both elements.

Applicant also observes that pending claim 1 contemplates that acknowledgment of receipt of the data is withheld at the proxy element until a predefined operation involving the data has been performed, and that the proxy element then sends this acknowledgment subsequent to the performance of the predefined operation. In the above Office Action, the Examiner observes the following with respect to these facets of claim 1:

> withholding acknowledgement of receipt of the data at the proxy element until a predefined operation involving the data has been performed (Col 9 line 52 – Col 10 line 7, second server takes over the TCP connection, corresponds to "a predefined operation involving the data", the acknowledgement (ACK) is not sent until the second server takes over the TCP connection, corresponds to "withholding acknowledgment of receipt of the data at the proxy element until a predefined operation involving the data has been performed".

It is noted that that the first or "failed" server in the Orman system is not configured to withhold an acknowledgment (ACK) as presently claimed. Whether or not an element in the Orman system other than the failed server operates to "withhold" an ACK is irrelevant, since pending claim 1 recites that this withholding is effected by the server initially receiving the data from the external entity (i.e., the failed server within the Orman system). In this regard there is no suggestion that the failed server within the Orman system is programmed or otherwise configured to withhold an ACK until some predefined operation has been performed.

In addition to reciting that the primary or proxy element is disposed to withhold an ACK until a predefined operation has been performed, claim 1 specifies that this same primary or proxy element sends the ACK to the external entity subsequent to performance of the predefined operation. As is indicated by the Examiner, this approach is not taken in the Orman system. Rather, in the Orman system the second server (not the first or "failed" server) sends an ACK after the second server takes over the TCP connection. Accordingly, Applicant respectfully submits that the Orman system does not implement a number of the operations of pending claim 1, and respectfully requests withdrawal of the outstanding rejections of claim 1 and its dependent claims 2-10 under 35 U.S.C. §102(e) and 35 U.S.C. §103(a), as applicable.

In view of the similarity in the recitations of claims 1 and 11, Applicant also respectfully requests withdrawal of the outstanding rejections of claims 11-17 for the reasons outlined above.

Pending clam 18 recites that the proxy element is configured to withhold acknowledgment of receipt of data from an external entity until a predefined operation involving the data has been performed and to send the acknowledgment to such entity subsequent to performance of the predefined operation. Accordingly, Applicant respectfully submits that Orman does not suggest the invention of claim 18 for the reasons outlined above, and respectfully requests withdrawal of the outstanding rejections of claims 18-22.

New claims 24-26 explicitly recite that the predefined operation includes storing the state information in memory within the standby system. Applicants respectfully submit that the art of record does not describe or suggest storing state information within the memory of a standby system.

Applicant respectfully requests consideration of the remarks herein prior to further examination of the above-identified application. The undersigned would of course be available to discuss the present application with the Examiner if, in the opinion of the Examiner, such a discussion could lead to resolution of any outstanding issues.

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Respectfully submitted,
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